

Section 4 of this report discusses corridor needs as they relate to the history of crashes, roadway geometric deficiencies, traffic operations issues, bicycle and pedestrian accommodations, rail and utility facilities, and public perceptions.

## 4.01 CRASH HISTORY

In the seven-year period from 1996 through 2002, 1103 crashes were reported along the USH 51 corridor. Of these, 292 resulted in injuries or fatalities. Seven crashes resulted in one fatality each. Three of these fatal crashes occurred within the City of Stoughton and four occurred between Stoughton and McFarland.

### A. Crash Rates

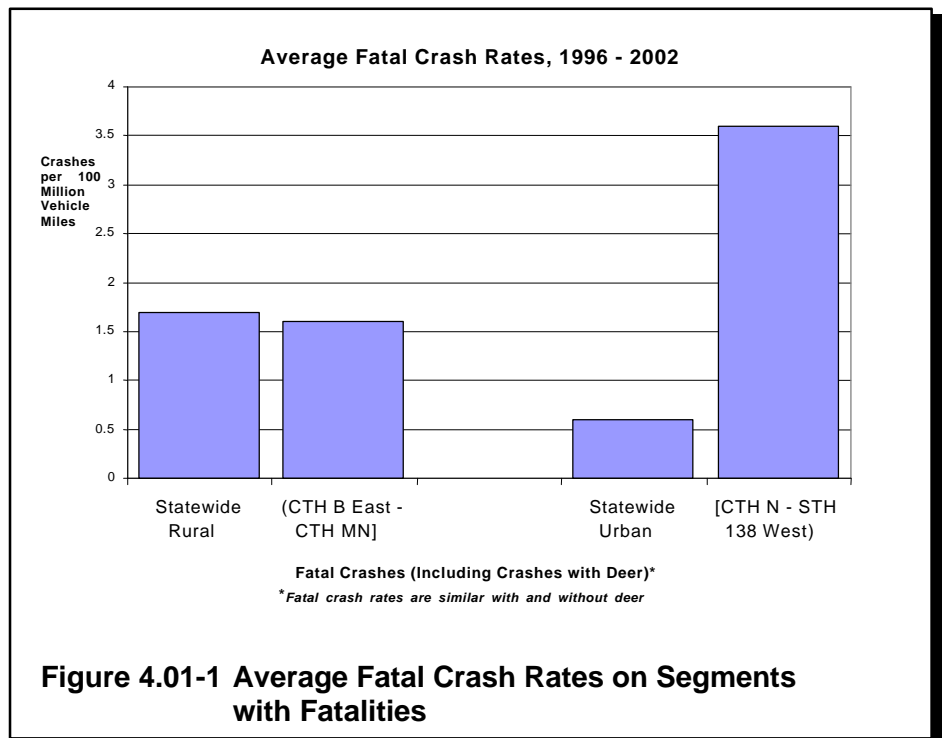
#### 1. Rural Segments

Crash rates on the predominately rural section of USH 51 between IH 39/90 and Stoughton are below the statewide average for a rural highway.

While corridor crash rates between Stoughton and McFarland are also below the statewide average, the intersection of USH 51 with CTH B (west)/CTH AB has a comparatively high rate. This is discussed in the next section.

In 2002, crash rates on the rural portions of USH 51 were generally equal to or greater than the seven-year average for the segment. Data are insufficient to suggest a general upward or downward trend in the crash rates.

Figure 4.01-1 shows the fatal crash rates for those segments with fatalities. Figure 4.01-2 shows the seven-year average crash rates for rural segments of the corridor. In the figures, an intersection marked with a bracket is included in that segment, while an intersection marked with a parenthesis is excluded.



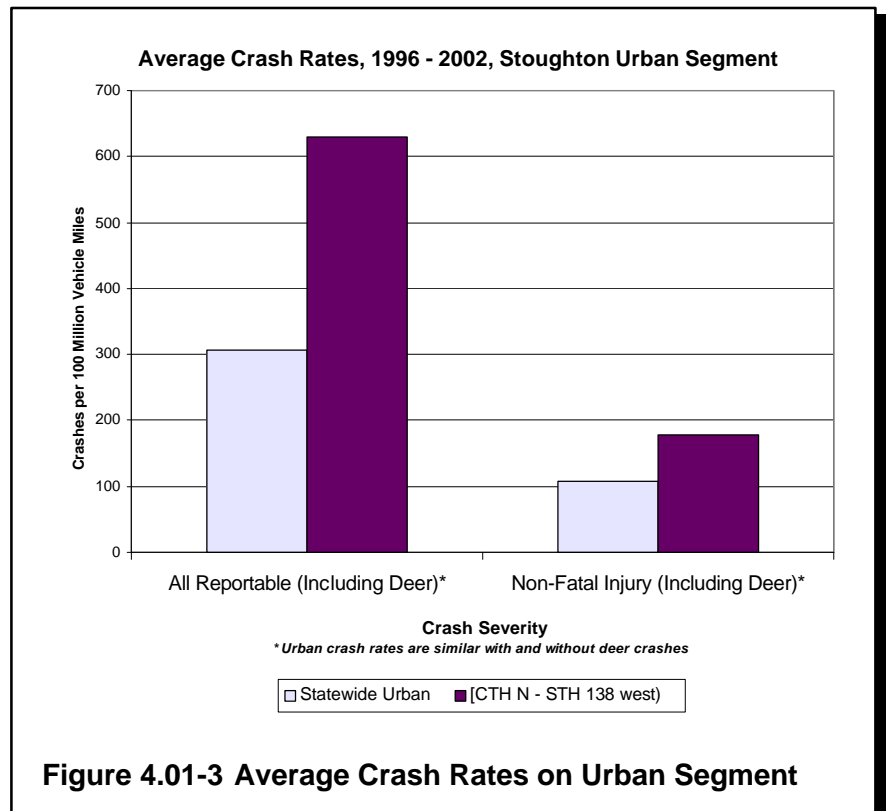
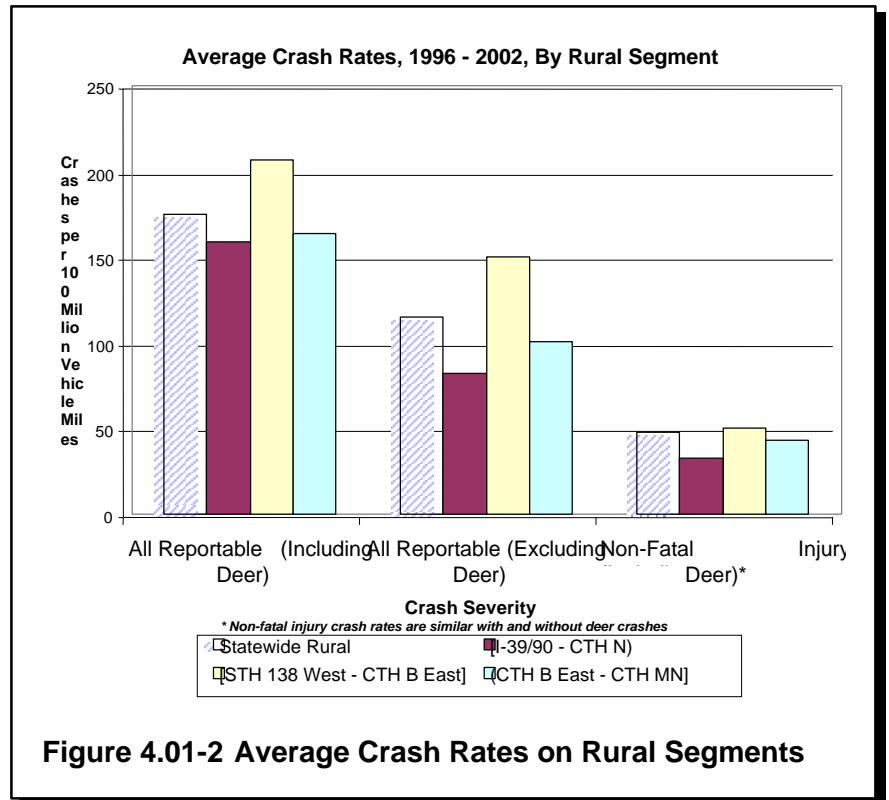
## 2. Urban Segment (Stoughton)

The crash rate on USH 51 within the City of Stoughton is more than two times the statewide average for an urban highway. The segment's nonfatal injury crash from 1996 through 2002 was nearly twice the statewide average for this period. The fatal crash rate for this period was nearly seven times the statewide average for an urban highway.

With the exception of fatalities, 2002 crash rates on this urban portion of USH 51 were below the seven-year average for the segment. Data are insufficient to suggest a general upward or downward trend in the crash rates.

Figure 4.01-3 shows the average crash rates for this urban segment. Figure 4.01-1 shows the fatal crash rates for those segments with fatalities. In the figures, an intersection marked with a bracket is included in that segment while an intersection marked with a parenthesis is excluded.

Safety improvements have recently been completed within Stoughton including placement of traffic signals on mast-arms, improved



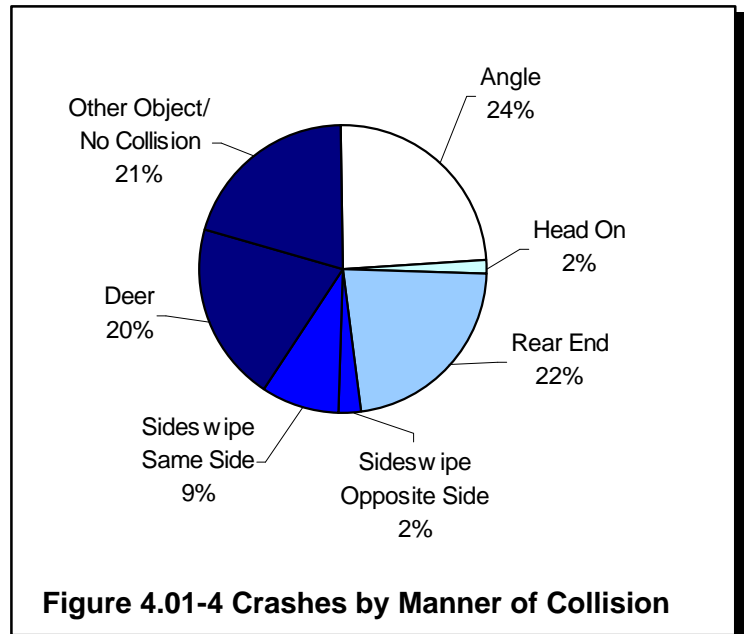
pedestrian signage and signals, and construction of a raised median to delineate a left turn lane at the Page Street intersection. Evaluation of the effectiveness of these improvements will require observation and collection of crash statistics over the next several years.

## B. Collision Types

Deer were involved in 20 percent of the total reportable crashes from 1996 through 2002. Collisions with deer represent a smaller percentage of the nonfatal injury crashes and none of the fatal crashes.

Of the nondeer crashes, angle collisions were the most frequent (accounting for nearly a third of nondeer crashes), followed by rear-ends and collisions with objects. Figure 4.01-4 shows the frequency of each collision type.

In the seven-year period, six reported crashes involved bicyclists and 11 involved pedestrians. This includes a pedestrian who was killed by a motorist subsequently cited for driving under the influence of alcohol.



## C. Crashes at Intersections

WisDOT considers an intersection crash rate below 1.5 crashes per one million vehicles entering the intersection (MVE) to be normal, a rate from 1.5 to 2.0 MVE to “warrant watching,” and a rate above 2.0 MVE to “warrant further investigation.” Figure 4.01-5 shows the location and crash rate of several intersections of concern.

With a crash rate of 2.5 MVE, the CTH B (west)/CTH AB intersection experienced 41 reportable crashes over the seven-year study period. This unsignalized intersection “warrants further investigation.” The majority of the collisions were caused by vehicles turning onto USH 51 after failing to yield the right-of-way and by vehicles trying to turn from USH 51 that were rear-ended by other vehicles following too closely. Roadway geometry played a role in most of these crashes: a horizontal curve runs through the intersection and the crest of a vertical curve is located approximately 1000 feet northwest of the intersection.

The CTH N intersection experienced 36 reportable crashes over the seven-year study period. This signalized intersection “warrants further investigation” with a crash rate of 2.3 MVE. Sixty-one percent of the collisions at this intersection were angle crashes. The intersection geometry may confuse drivers unable to discern which movement another vehicle is attempting. CTH N has no exclusive left turn lanes, and USH 51 has neither exclusive left turn lanes nor exclusive right turn lanes.

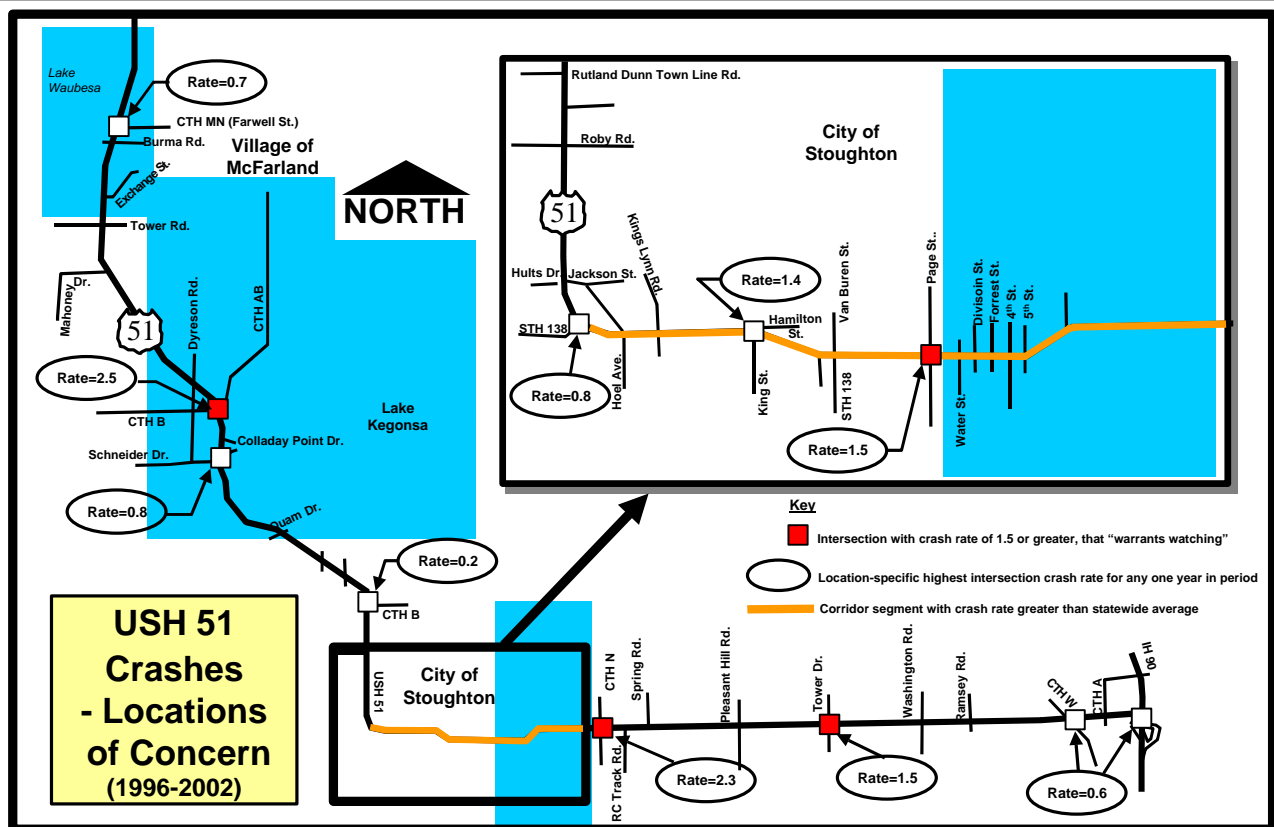


Figure 4.01-5 USH 51 Crashes: Locations of Concern

The intersection with the most crashes was Page Street, with 46 reported crashes over the seven-year study period. Because of the crash rate in 1996, this intersection "warrants watching." There is no evident pattern to the crashes.

In addition to Page Street, Tower Drive (between Stoughton and IH 39/90), 4th Street, and Exchange Street each had single-year crash rates that "warrant watching." Figure 4.01-5 shows the results of the crash statistics analysis schematically.

#### D. Crashes at Curves

The previous section observed that roadway geometry played a role in most of the crashes at CTH B (west)/CTH AB: a horizontal curve runs through the intersection and the crest of a vertical curve is located approximately 1000 feet northwest of the intersection.

Horizontal curves may have also contributed to collisions at STH 138 (west), Mahoney Road, and Halverson Road. Halverson Road intersects USH 51 at a skew. Within Stoughton, several vertical and horizontal curves may have played a role in collisions.

As noted in Section 3, five vertical curves and two horizontal curves were evaluated as substandard. Because of the lack of complete roadway data, not all curves in the corridor could be evaluated for adequacy. Of the seven identified as substandard, however, none appeared to contribute to any of the reported crashes.